

ΒΙΟΓΡΑΦΙΚΟ ΣΗΜΕΙΩΜΑ

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EDUCATION

- **PhD** in Inorganic Chemistry, Department of Chemistry, University of Crete, Greece (2007).
- **M.Sc.** in in the Laboratory of BioInorganic Chemistry, Department of Chemistry, University of Crete, Greece (2005).
- **B.Sc.** in Chemistry, Department of Chemistry, University of Crete, Greece (2002).

PROFESSIONAL EXPERIENCE AND APPOINTMENTS

09/2023 – present: Associate Researcher (Grade C), Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, Athens, Greece.

02/2022 – 09/2022: Research Associate (Academic Scholarship), Chemistry Department, University of Crete, Greece.

10/2018 – 01/2022: **Principal Investigator (PI)**, funded from the Hellenic Foundation for Research and Innovation (HFRI), Chemistry Department, University of Crete, Greece.

- 02/2017 – 01/2018: Teaching Fellow, Chemistry Department, University of Crete, Greece.
- 10/2016 – 12/2016: Research Associate, Center of Materials Technology and Photonics & Electrical Engineering Department, Technological Educational Institute of Crete, Greece.
- 07/2013 – 07/2015: Research Associate, Institute of Electronic Structure and Laser of the Foundation for Research and Technology Hellas, Greece.
- 11/2009 – 09/2015: Research Associate, Department of Chemistry, University of Crete, in collaboration with University of Athens, Greece.
- 05/2009 – 04/2012: Research Associate, Chemistry Department, University of Crete, Greece.

MAIN RESEARCH INTERESTS

- Bioinspired solar energy utilization.
- Development of photocatalytic hydrogen production systems.
- Self-organization of porphyrin derivatives and preparation of self-assembled nanomaterials.
- Synthesis of chromophores for photovoltaic cells.
- Synthesis of catalysts for polymerization reactions, hydrogenation, formylation and epoxidation.
- Biomimetic cytochrome *c* oxidase models.
- Covalent functionalization of carbon nanostructures (graphene, fullerenes, nanotubes and nanochorns) with porphyrin derivatives.
- Application of porphyrin chromophores for keratoconus treatment.
- Preparation of porphyrin-based derivatives as emitters in light-emitting electrochemical cells (LECs).
- Synthesis of chromophores for artificial photosynthetic models.
- Photocatalytic carbon dioxide (CO₂) reduction.
- Dye-sensitized photoelectrosynthesis cells (DSPECs).

EXTERNAL FUNDING

- Hellenic Foundation for Research and Innovation (HFRI) under the call “1st Call for H.F.R.I. Research Projects to Support Post-Doctoral Researchers”, project code: 508, P.I., 2018-2022.
- European Union and Greek national funds through the Operational Program Competitiveness, Entrepreneurship, and Innovation, under the call RESEARCH –

CREATE – INNOVATE, project code: T1EDK-01504, post-doctoral researcher, 2018-2023.

- European Union and Greek National Funds through the Regional Operational Program “Crete 2014-2020”, project code OPS: 5029187, post-doctoral researcher, 2019-2022.
- European Union (European Social Fund - ESF) and Greek National Funds through the Operational Programme “Human Resources Development, Education and Lifelong Learning 2014-2020”, project code: MIS 5048472, post-doctoral researcher, 2019-2021.
- European Union (European Social Fund - ESF) and Greek national funds through the Operational Program “Education and Lifelong Learning” of the National Strategic Reference Framework (NSRF) - Research Funding Program: THALES, project code MIS 377252, post-doctoral researcher, 2012-2015.
- European Union, FP7-REGPOT - Specific Programme “Capacities”, Grant agreement ID: 229927, post-doctoral researcher, 2009-2012.

TEACHING EXPERIENCE

- 2017 – 2018: Autonomous teaching of the undergraduate course “Laboratory and Chemical Safety”, Department of Chemistry, University of Crete.
- 2004 – 2005: Teaching assistant in the undergraduate course “Inorganic Chemistry II”, Department of Chemistry, University of Crete.
- 2003 – 2006: Teaching assistant in the undergraduate courses “Laboratory of Inorganic Chemistry I and II”, Department of Chemistry, University of Crete.
- 2009 – 2023: Co-supervisor of 5 PhD students, 12 M.Sc. students and more than 40 undergraduate students, Department of Chemistry, University of Crete.

PROFESSIONAL AFFILIATIONS & ACTIVITIES

- Organizing Committee Member for the Intensive Programme (IP) “Bioinspired Materials for Solar Energy Utilization” (BIMASOUTI), Summer School, Heraklion, Greece, (2012 – 2014).
- Organizing Committee Member for the Intensive Programme (IP) “From Chemistry to Biology and Medicine via Metals” (CHEBIOMEME), Summer School, Heraklion, Greece, (2009 – 2011).

- Organizing Committee Member for the 1st International Conference on BioInspired Materials for Solar Energy Utilization, BIOSOL-2011, Chania, Greece, (2011).
- Member of the: American Chemical Society (ACS), Society of Porphyrins & Phthalocyanines (SPP), Solar Fuels Network, Association of Greek Chemists.
- Reviewer in 15 International Scientific Journals.

AWARDS AND DISTINCTIONS

- Award of excellence for the MSc from the Greek National Scholarships Foundation (I.K.Y.), for Academic Excellence.
- Research Scholarship "Iraklitos" for the PhD from the Greek Ministry of Education and European Social Funds.
- Best Poster Award in PSA-2018: Peptide Self-Assembly: Biology, Chemistry, Materials and Engineering, 23-26 August 2018, Beijing, China.
- 12 Publications have distinguished for covers.

PUBLICATIONS

- 89 original research papers in peer-reviewed journals and 1 book chapter.
- 2150 citations and h-index = 27 (Web of Science, 20/09/2023).
- Participation in 75 national and international conferences.

SELECTED PUBLICATIONS

1. "Highly Efficient Light-Driven CO₂ to CO Reduction by an Appropriately Decorated Iron Porphyrin Molecular Catalyst", A. Stoumpidi, A. Trapali, M. Poisson, A. Barrozo, S. Bertaina, M. Orio, G. Charalambidis, A. G. Coutsolelos, [ChemCatChem](#), **15**, e202200856 (2023).
2. "Porphyrins and phthalocyanines as biomimetic tools for photocatalytic H₂ production and CO₂ reduction", E. Nikoloudakis, I. López-Duarte, G. Charalambidis, K. Ladomenou, M. Ince, A. G. Coutsolelos, [Chem. Soc. Rev.](#) **51**, 6965 (2022).
3. "A covalently linked nickel(II) porphyrin–ruthenium(II) tris(bipyridyl) dyad for efficient photocatalytic water oxidation", E. Nikoloudakis, A. Z. Alsaleh, G. Charalambidis, A. G. Coutsolelos, F. D'Souza, [Chem. Commun.](#) **58**, 12078 (2022).

4. "Dye-sensitized photoelectrosynthesis cell (DSPEC) for benzyl alcohol oxidation using zinc porphyrin sensitizer and TEMPO catalyst", E. Nikoloudakis, P. B. Pati, G. Charalambidis, D. S. Budkina, S. Diring, A. Planchat, D. Jacquemin, E. Vauthey, A. G. Coutsolelos, F. Odobel, [ACS Catal. 11, 12075 \(2021\)](#).
5. "Antenna effect in BODIPY-(Zn)Porphyrin entities promotes H₂ evolution in dye-sensitized photocatalytic systems", V. Nikolaou, G. Charalambidis, G. Landrou, E. Nikoloudakis, A. Planchat, R. Tsalameni, K. Junghans, A. Kahnt, F. Odobel, A. G. Coutsolelos, [ACS Appl. Energy Mater. 4, 10042 \(2021\)](#).
6. "Self-Assembly of Porphyrin Dipeptide Conjugates toward Hydrogen Production", E. Nikoloudakis, M. Pigiaki, M. N. Polychronaki, A. Margaritopoulou, G. Charalambidis, E. Serpetzoglou, A. Mitraki, P. A. Loukakos, A. G. Coutsolelos, [ACS Sustainable Chem. Eng. 9, 7781 \(2021\)](#).
7. "Photocatalytic hydrogen production of porphyrin nanostructures: spheres vs. fibrils, a case study", V. Nikolaou, G. Charalambidis, A. G. Coutsolelos, [Chem. Commun. 57, 4055 \(2021\)](#).
8. "Carbon dots for photocatalytic H₂ production in aqueous media with molecular Co catalysts", K. Ladomenou, G. Landrou, G. Charalambidis, E. Nikoloudakis, A. G. Coutsolelos, [Sustainable Energy Fuels, 5, 449 \(2021\)](#).
9. "Controlling Solar Hydrogen Production by Organizing Porphyrins", V. Nikolaou, G. Charalambidis, K. Ladomenou, E. Nikoloudakis, C. Drivas, I. Vamvasakis, S. Panagiotakis, G. Landrou, E. Agapaki, C. Stangel, C. Henkel, J. Joseph, G. Armatas, M. Vasilopoulou, S. Kennou, D. M. Guldi, A. G. Coutsolelos, [ChemSusChem, 14, 961 \(2021\)](#).
10. "Water Molecules Gating a Photoinduced One-Electron Two-Protons Transfer in a Tyrosine/Histidine (Tyr/His) Model of Photosystem II", G. Charalambidis, S. Das, A. Trapali, A. Quaranta, M. Orio, Z. Halime, P. Fertey, R. Guillot, A. G. Coutsolelos, W. Leibl, A. Aukauloo, M. Sircoglou, [Angew. Chem. Int. Ed. 57, 9013 \(2018\)](#).